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THE DIXIE RANGER

GREEN PASTURES AND GREEN FORESTS

--From President Roosevelt's talk at the Green Pastures Rally
in Charlotte, North Carolina, September 10, 1936--

"Many years ago I talked with a learned man about this continent--
what it was like when the white man came. I asked him:

"Were the great plains which extended hundreds of miles upon
hundreds of miles from the Rockies near to the Mississippi, always
bare of trees, always the pasturage of great waves of bison and
millions of antelope?" "Yes," he replied, "for many hundreds of
years before the white man came, but it is my belief that trees could
have grown and still could grow on those plains, but that they were
prevented from doing so by the constant succession of prairie fires,
some of them set by lightning and some of them by the red men."

"I asked him whether the streams of the southland were always
brown before our white ancestors moved in. He replied: "No, in those
earlier days, during the greater part of the year, the southern rivers
were clear streams, except in the springtime, when they had many freshets
and floods, just as we do. When that occurred, soil was washed from the
uplands and the mountains into the Atlantic Ocean, but because they were
seasonal only in their effect, the natural accretion of new top-soil took
the place of that which had run off to the sea."

"If history gives a name to the age in which we are living, I hope
it will call this the era of rebuilding -- for it is my firm conviction
that unless, in our generation, we start to rebuild, the Americans of a
century hence will have lost the greater part of their natural and
national heritage.

"It is because in these latter years I have spent so great a part
of my life in this southland, and because I have come to know its fine
people, its brave history, its many problems, that I speak not as a
stranger to you who are gathered here from the seven states.

"I have seen the denuding of your forests; I have seen the washing
away of your topsoil; I have struggled through the red clay roads in
the springtime. I have taken part in your splendid efforts to save your
forests, to terrace your lands, to harness your streams and to push
hard-surfaced roads into every county in every state. I have even assumed
the amazing role of a columnist for a Georgia newspaper that I might write
powerful pieces against burning over the farm woodlots in favor of the
cow, hog and hen program."

THE DIXIE RANGER

U. S. FOREST SERVICE, SOUTHERN REGION, ATLANTA, GEORGIA
JOSEPH C. KIRCHER, REGIONAL FORESTER

Volume 2

September 1936

Number 9

THE SOUTHERN REGION'S FIRE RECORD

The Region apparently has entered the big fire league and its record is nothing to be proud of.

I notice a statement of "National Forest and Private Lands Inside" burned to July 31 shows that the total for Region 8 is more than 18,000 acres larger than all the rest of the Service, omitting Region 9. The latter has burned over more acres than Region 8 but there is little consolation in this, in view of the fact that this Region's area burned is larger than all of that in the eight others combined. It is true that in the West the worst of the fire season is still ahead, and, because of the present drought conditions, the western regions may have a bad time and a large acreage burned, but, even then, remember that they

must protect about fifteen or twenty times as much territory as there is within Region 8.

I am not crying about our record. I know that much of it is in territory only recently acquired and on lands on which fire ran indiscriminately in the past. However, I do want the members of this Region to face the facts and redouble their efforts in getting on top of their fire problem. It is our first job and with the expenditure of energy and effort which the job warrants, a much smaller set of figures ought to be produced next year.

-- JOSEPH C. KIRCHER,
Regional Forester

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BOOM AND BUST

F. A. Silcox

Gifford Pinchot, first Chief of the United States Forest Service, once told a group of Western lumbermen that if they continued cutting timber as fast as they had been cutting it, their forests would be cleaned out in thirty years.

"Mr. Pinchot," replied the leader of the group, "there is enough timber tributary to our mills to keep them going for seven generations, and that's long enough for me."

That was twenty-three years ago. Today the timber is gone, the mills are closed.

This is not an isolated case. All over this country are scenes of desolation, ghost towns which once were flourishing, vast areas of denuded, eroded and burned-over lands which once were rich forests. These tragic eyesores are the result of a lumbering policy of boom and bust. In their train have followed unemployment, poverty and social demoralization.

Fifty years ago, Wayne County, Missouri, was a paradise of virgin shortleaf pine, interspersed with valuable mixed hardwoods. Wild turkey, quail and deer abounded in the forest.

Between 1886 and 1906, two or three trainloads of lumber were shipped out daily. In Greenville was built the largest sawmill in the South.

Greenville grew to a population of 2,000, and prospered. Three churches were built and a school system with a four-year high school was established.

Agriculture boomed along with the town. The market for fresh foods was large. Horses used in the woods operations needed much hay. The grazing lands were rich.

Today, one small sawmill, running about two thirds of the time, handles all the lumber output of the county. Greenville has dropped to a population of 700. Farmers have lost their markets and, by erosion, much of their soil. Many of the upland farms have been abandoned.

In Camden County, Georgia, I sat on the porch of the house of an elderly Southern planter. He owned 640 acres, of which 300 were under cultivation and 340 in timber. In past years, he told me, he had not paid much attention to the timber. He had leased the turpentine rights for a small sum, and had burned over his cut-over land every year for grazing.

Year by year, mortgages crept up on him. But a few years ago he decided to forget that he was a Southern planter and try turpentine his own timber.

He gets \$2,000 a year out of his woodlot now. He doesn't burn over his land any more. He restocks it, instead. And the mortgages are on their way to oblivion.

The town of Upilika, Missouri sprang up about 1880. It was the center of some rich stands of virgin shortleaf pine. Several mills were established in and near the town. One company alone cut

20,000 acres of pine timber. Another cut 10,000. Upilika, at the peak of its prosperity, had a population of more than 1,200 people.

The town of Upilika now consists of one farmhouse.

I have before me a map of the holdings of the Crossett Lumber Company of Crossett, Arkansas. It is typical of many Southern lumber holdings of today - farms sprinkled here and there, all through the holdings. With the addition of the pulp mill now contracted for, the company will be on a permanent sustained yield basis, cutting one area while others are being restocked, thus keeping the town going without danger of a breakdown, and giving the farmers a market for their products. Unspectacular but sound.

The company that built Fullerton, Louisiana, spent about \$3,000,000. It built two big sawmills. It built and operated a big department store and drug store. It built bakeries, dairies, theatres, barber shops. The company operated from 1907 to 1927, cutting longleaf pine. At the height of its operation it employed 2,000 people. Today the company employees nobody in Fullerton. Only one small building is still standing there. The company's property in the town is worth, perhaps \$200.

When the East's supply of timber was beginning to run low, the great Northwest was opened up.

Vast expanses of virgin forest, Columbia County, Oregon, for instance, on the Columbia River, had 400,000 acres of dense coniferous timber, mostly Douglas fir. Within comparatively recent times the mills came in, and the boom towns grew up. Many of the mills are still going full blast. The boom.

If operations continue at the same rate as the average for the thirteen years ending January 1, 1934, Columbia County's timber will last six more years. The bust.

-- The Country Home

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ACTIVE PUBLIC RELATIONS
AIDS ARKANSAS STATE WORK

Arkansas has progressed rapidly in protecting its woods from fire in the past three years. The United States Forest Service was caring for its national forest land, and private timber land owners were trying to keep fire from destroying their holdings. But there was no great public sentiment for eliminating woods fires. In 1933, the State Forest Service was organized and now the state, private land owners, and the United States Forest Service are cooperating in a most effective way so that in 1935 but 18,100 acres were burned over on the 9,000,000 acres of protected land. The State has 13 districts manned and 7,000,000 acres of private land organized. There are 620 paid men; 13 of these are district rangers. The others are rangers, guards, tower men, and dispatchers.

How did this come about when but a few years ago fires burned 5,000,000 acres to 10,000,000 acres of forest land yearly? Largely by public relations methods. The rangers mix with the people of their districts and discuss the whole matter freely. They get into the schools. The tower men welcome visitors and do not fail to give an informal lecture on fire prevention to all who come. There has been a general response in the protected regions and the effect has spread to the unprotected regions, so that in 1935 but 1,447,000 acres were burned in the unprotected portions of the state. Every man, woman and child in the state must realize what the growing of trees means to them and what the burning of them does.

The public relations methods are bringing results. A public relations man goes about the state with reels of movies and movie talkies, and some are available for others to use. Exhibits are placed here and there and forest men appear as opportunity offers, before groups of citizens and explain the forestry situation.

Just now a series of Forest Festivals is being held, one in each of the 13 districts. There are contests of various kinds -- wood chopping and sawing, nail driving, tree climbing, horseshoe pitching, cow, hog and chicken calling and various races. These are first old-fashioned picnics. After the picnic supper or barbecue there is music by quartets, orchestras, and the old fiddlers, followed by a talk by a prominent woman or man, a short statement and introduction by State Forester Gillette, and a lecture with colored slides by H.N. Wheeler.

This is followed by 30 minutes of reels, "Forest Fires or Game," "Forests and Waters," and "Forests and Wealth." At 10:30 the crowd disperses, having unanimously voted for another similar picnic in 1937. The attendance has been from 1500 to 4,000 each night. It is remarkable how these people enter into the spirit of the occasion and then sit quietly on the ground for the whole evening performance. Can any one think of a better way to get attendance of the whole country side to a discussion on forestry?

The CCC Camps are a great help in the fire suppression program. It is all so different than eleven years ago, and even three or four years ago, that it seems incredible. We cannot advance to a national program of forestry except as the States progress, and they will go ahead largely by public relations methods. Arkansas is setting a fast pace that other states might well emulate.

-- H.N. Wheeler,
Forestry Lecturer

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GEORGIA SLASH PINE FOREST FESTIVAL

The second annual Slash Pine Forest Festival will open in Waycross, Georgia, on Tuesday, November 10, and continue through Saturday, November 14. The local post of the American Legion will have charge of the program on the 11th, Armistice Day.

THOSE CCC ACCIDENTS

Those of us in the Regional Office who share the responsibility for the CCC activities are proud of the fact that the June report of accidents per thousand enrollees shows Region 8 with the fewest number, and also that within the Region there has been a consistent reduction during the past four months. The figures follow:

Accidents per thousand enrollees month of June, 1936 -

Region 10	21.1
Region 2	12.5
Region 6	10.5
Region 1	10.4
Region 7	9.8
Region 4	9.7
Region 5	8.8
Region 9	7.6
Region 3	6.5
Region 8	5.1

Region 8 - Accidents by months per thousand men -

April	6.3
May	5.3
June	5.1
July	3.7

The record of Region 8 gives us a feeling that the safety campaign which has been going on right from Mr. Fechner's office down through the organization is being taken seriously. Let me suggest to you, though that this work be kept up vigorously. We can't rest on our laurels simply because we happen to have a better record than the other fellow. Accidents don't just happen - they are due to human failure. We can't be satisfied with our record until all accidents are eliminated.

--- JOSEPH C. MIRCHER,
Regional Forester

AN EXAMPLE OF KRAFT PAPER
FROM SOUTHERN PINE

The Mississippi Forestry Commission has recently released an unusual leaflet, which announces on both sides of the sheet that it is "kraft paper made in Mississippi from Mississippi pine."

On one side of the leaflet the following figures are given for the State of Mississippi, according to preliminary report of a Forest Survey by the Southern Forest Experiment Station:

Present Volume of Merchantable Timber in Board Feet:

1. Longleaf and slash pines	1,260,000,000
2. Loblolly and shortleaf pines	11,860,000,000
3. Other Pines	370,000,000
4. Cypress	690,000,000
5. Red Gum	3,610,000,000
6. Black Gum and Tupelo	1,520,000,000
7. Red and Water Oaks	3,180,000,000
8. High Grade White Oak	890,000,000
9. Low Grade White Oak	1,470,000,000
10. Ash	320,000,000
11. Hickory	1,010,000,000
12. Pulping Hardwoods	2,600,000,000
13. Non-pulping Hardwoods	<u>2,510,000,000</u>
Total	31,290,000,000

The other side of the leaflet gives "Statistics of Slash Pine Growth, Sam Byrd Plantation, Jackson County, Mississippi:"

Planted 6 x 8 feet apart March 26, 1926, Measured
September 1935 (10 Growing seasons)

Average Height 38 feet
Average diameter 4 1/2 feet above ground, 5.9 inches
Volume peeled wood per acre, 1.872 cubic feet
Merchantable Volume per acre, 24.46 cords
Average growth per year per acre 2.44 cords

WHITHER? - REPUTATION

Through years of small appropriations and wise spending the Forest Service gained a reputation of getting the most out of every dollar spent. And during the past few years of emergency activities, the Service has shown its ability to meet and adapt itself to any emergency and handle any number of men "handed to it" almost overnight. But with these changing conditions and the need for doing things in a big way and on an extensive basis, I wonder what has happened to the reputation for getting the most of our dollars. I am forced to believe that the need for spreading the available manpower over a large number of jobs has resulted in extensive supervision and a lack of proper attention to details. Possibly we have got in a "rut" and are inclined to be satisfied with existing conditions, and it is high time that we all stop occasionally and analyze some of the details of the job.

For example: I recently stopped at a quarry operation and made some observations. I noted that the crusher was running with the jaws full only about 75 percent of the time. The trouble was in not getting stone to the crusher fast enough. Only one quarry car was being used and the track was too far away from the stone. The stone was being loaded into the quarry car from wheelbarrows, and some of the boys were carrying stone 20 feet or more. I was told that the floor was being prepared to move the track over, but I could see no reason why the track could not have been worked over with crowbars between carloads to facilitate loading. I believe the manpower was sufficient for handling more stone if the setup had been improved

to get more out of the same manual effort. This crusher was producing from 70 to 90 yards a day, but I suspect here the foreman and superintendent were content with the output and were not awake to the possible improvement of 20 to 25 percent.

Again I stopped at another quarry and found the crusher jaws operating empty over 50 percent of the time. No doubt the manpower in the quarry was not sufficient and an attempt was being made to get more men (this was an ERA job), but I suspect that if the quarry operation had been carefully analyzed the setup or organization could have been improved to get more out of the available manpower.

Again, I noted that at a loading ramp for surfacing material five men were required to force the material down through the hopper because the opening was not big enough to allow the material to fall through. A Caterpillar 50 tractor was loading with a 1-yard scraper making two trips to a load, tying up the truck doubling the number of trips over what would have been required had a 2-yard scraper been used. The larger scraper could have been used if the material in the pit were loosened with a scarifier. On this job also trucks of two sizes were used, requiring variation in the loads.

Again, I find on a single track road a multiplate arch culvert with a 3 or 4 feet excess distance between headwalls. I understand that the culvert length was specified with the idea of letting the fills slope down to the headwalls and not to bring the head-

WOOD GAS AS A MOTOR FUEL

walls to grade, and the headwalls were erroneously brought to grade. The cost of the excessive length of culvert, or additional work in constructing the headwalls to grade would have constructed that much more road.

Again, I find culverts extending 6 to 8 feet beyond the fill slope with a loose stone headwall at the outlet end. Six to 8 feet of culvert could have been saved and the stone used for the lower headwall would have made a paved trough down to the fill, and the result would have given a much better appearance. I understand that the culverts for the project were specified by the locator, but the construction foreman or superintendent could have questioned the need for the length before making installation.

We are not like Tennyson's "Light Brigade" - it is ours to make reply - it is ours to reason why - and it is this self-analysis, this pause to ask ourselves the why's of the various operations, and the abandonment of content with things as they are, that will bring about better conditions and bring back that reputation. The Regional Office Staff, the Supervisor's staff, and the Ranger's staff can be of help but cannot make the studies necessary to analyze all of the jobs, and it should be the duty of every individual, from the straw boss or crew leader on up, to see that his particular job is functioning on a basis which will obtain the most results from the expenditure of labor, equipment and materials.

--Rezin E. Pidgeon,
Assistant Regional Forester.

The August issue of the Journal of Forestry carries a note by R. C. Bryant, Yale School of Forestry, in which he says:... "We seldom hear anything from foresters and conservationists about the importance of forests as a source of motor fuel, in spite of the fact that the possibilities along this line are very great. Central and northern European countries which do not possess adequate supplies of crude oil and hence are forced to import the major part of their gasoline supply, have devoted much time and thought to the development of substitutes for liquid fuels which may be derived from domestic products.

Although there still remain certain problems to be solved before wood gas can be considered to be a fuel which is a satisfactory substitute for gasoline in motor vehicles, yet the developments to date have shown so much promise that many trucks and heavy passenger vehicles in Europe are now using wood gas... Among the advantages of wood gas for motor vehicles is its relative cheapness as compared to liquid fuel. German authorities state that 21 pounds of air-dry beech wood or 10.5 pounds of beech charcoal are equivalent to 1 United States gallon of gasoline.

Although it is not probable that in this country interest in the use of wood gas will be aroused to the point where it is widely adopted as a motor fuel until gasoline becomes higher in price than it is today, yet as foresters we should not overlook the opportunity to point out forcibly that forests

will provide a future satisfactory substitute for liquid motor fuels which is renewable and hence inexhaustible..."

The Southern Pine Association, New Orleans, Louisiana, in its Southern Forestry Notes recently discussed this subject and the possibilities offered by this method for utilizing low grade timber, wood chips and wood refuse from forests.

Mention is also made of a new method of burning wood for domestic heating, perfected by the Germans. " Stoves have been designed and constructed commercially, based on the principle of converting the wood into gas and then burning the gas. The stoves are no larger than ordinary stoves yet one charge is sufficient for from 12 to 24 hours depending upon the weather, and the heating efficiency of the fuel is practically double that obtained by the ordinary method of burning wood."

AERIAL MAPPING PROJECT
FOR ALABAMA

The available maps of our Forest Units in Alabama are perhaps the least accurate of any in the Region, since they have, of necessity, been based, for the most part, upon very old and incomplete survey data.

With this in mind it has been decided to allot to an Alabama survey project a sufficient amount of this year's ERA money to cover aerial photographs and the necessary ground control for the Black Warrior, Talladega, Oakmulgee and Conecuh Forests.

Specifications for the aerial photographs were drawn up and sent out, along with invitations to bid on the work, to a large number of commercial organizations engaged in this work. Bids were to have been opened on August 21, but none were received. This indifference to new contracts on the part of commercial firms seems to indicate that, so far as the aerial photographic industry is concerned, the depression is entirely a thing of the past.

In the absence of commercial bids, we have inquired, through the Fourth Corps Area Headquarters, as to whether the flying and the photographing might be done by the Army. The Army has personnel and equipment available at Maxwell Field near Montgomery, Alabama, for this kind of work; and negotiations are now proceeding with a view to securing the necessary photographs from the Army.

In the meantime, Supervisor Rasor is pushing the work of running the transit traverse necessary for ground control. Eight survey parties, each one made of three experienced acquisition survey men and three men from the local relief rolls, were organized during the period of August 12 to August 20 and are rapidly completing the necessary ground control. The acquisition men were assembled from other Forests throughout the Region.

As a result of this project, it is hoped that, in the not very distant future, we may have accurate and dependable maps of the Alabama National Forests.

--W. N. SLOAN,
Division of Engineering.

PUERTO RICO MAKES PROGRESS
IN FORESTRY UNDER PRRA PROGRAM

The object of the forestry program which forms a part of the general plan for reconstruction of Puerto Rico is to acquire, by purchase and to reforest the large continuous areas of land on the Island from which the greatest benefits can be derived for the people of Puerto Rico only through growing of timber crops on them. Of the total land area of Puerto Rico, amounting to over two million acres, it is estimated that half a million acres fall in this class and that at least one half of this area is so owned and located as to be practicable for purchase and administration by the Government for forestry purposes. The other half is made up of small scattered tracts held in connection with farms, and, on which approximate forestry can be practised to best advantage by private owners assisted by the Government through its Forestry Extension Service, which provides trees for planting and technical advice free of charge.

The Forestry Division of the Puerto Rico Reconstruction Administration was set up with an original budget for the first year, of approximately one million dollars with which to purchase and reforest 20,000 acres of denuded forest land as a start on the above program. This Division was organized in September 1935 and the entire authorized employment quota of 2200 men were started to work on October 3, 1935 on the Federal lands of the Luquillo National Forest, using equipment, supplies, and nursery trees loaned by the Insular and Federal Forest Services. This employment was subsequently transferred to forest land purchased by the PRRA. Due to the urgent need

for increasing employment this quota was raised to more than 5,000 men during the first three months of 1936 and then reduced to approximately 2500 on April 1st where it remained until September 1st. The allotment for this project has recently been increased to take care of work on Insular and National Forest lands, an extension of working period and an increase in employment quota.

Accomplishments on this project to September 1, 1936 are as follows:-

1. More than the entire quota of land planned for purchase is now under option, over 20,000 acres at an average price of \$13.00 per acre, amounting to a total value of \$260,000.
2. Three large forest tree nurseries having a combined production capacity of twenty million trees annually have been established and have produced the equivalent of fifteen million trees, at an average cost of \$5.00 per thousand, amounting to a total cost of \$75,000. An average of 300 men have been employed daily on Nursery work for eleven months amounting to 60,000 mandays.
3. Seven thousand acres of land have been cleared and planted at an average cost of \$30.00 per acre amounting to a total cost of \$ 210,000. An average of 800 men have been employed daily on planting work for eleven months, amounting to 160,000 mandays.
4. More than fifteen miles of hard surfaced roads and a much longer mileage of trails have been

constructed at a total cost of \$300,000 resulting in the employment of 1000 men daily for eleven months, amounting to 216,000 man-days.

The entire forestry program to September 1, 1936 has employed an average of over 2500 men daily for eleven months, amounting to 500,000 mandays, with a total expenditure of approximately \$1,000,000, including cost of land, salaries, wages, materials, supplies, equipment and overhead.

-- E. W. Hadley,
Chief Forest Division.

TREES AND YEARS AT HARVARD

To celebrate the 300th Anniversary of Harvard University, potent graduates lent to Robinson Hall last week the most important collection of antiques New Englanders have seen for a generation. Also last week the Harvard Forest joined the festivities with an exhibition that a group of trained craftsmen has been preparing for the past five years. Sixteen illuminated models went on view near the famed glass flowers in the University Museum. Portrayed in miniature and exact detail were the history and proper care of a New England Forest.

In 1931 Richard T. Fisher, first Director of the Harvard Forest at Petersham, Massachusetts evolved his scheme for teaching forestry through models. With some \$30,000 from an anonymous donor, Director Fisher gave the contract to the professional model-making

firm of Guernsey & Pitman. His instructions were that all the models should be of the same scale (half an inch to the foot), that the trees should not be random twigs and bits of painted sponge but accurate reproductions which any naturalist could recognize.

Most interesting of the four-foot models on view last week was a group of seven showing the history of one hillside at Petersham, Massachusetts. First appeared the primeval forest of 1700; white pines 150 feet tall tower over the beeches, maples, hemlocks and oaks; only in a clearing caused, perhaps, by an Indians fire is the weedy undergrowth of modern woods visible.

Thirty-three years later a settler cleared a field in the forest, built a log house and is grazing his cattle among the huge stumps of the white pines. Model No. 3 shows the same hillside in 1830, at the height of rural cultivation in New England: stone walls and white farm houses are everywhere; only a few straggling wood lots remain to the original forest.

In 1850 (Model No. 4) the same farm has been abandoned in the rush to the West: in the deserted fields tiny white pine seedlings are beginning to appear once more. In 1910 nature has restored the white pine forest; a portable saw-mill has been set up and logs are being sledged through the snow to the railroad. By 1945 the hillside is once again bare deserted. Fifteen years later, in Model 7 this twice cut over hillside is again covered with trees but they are of a lean, weedy variety, fit only for cordwood unless drastic silviculture is practiced.

-- Time.

TVA CREATES NORRIS LAKE FOREST

An interesting experiment in the furnishing of part-time work to a selected group of forest workers has been initiated on TVA lands around Norris Lake, in East Tennessee.

In the building of Norris Dam and the flooding of the land above it, 35,000 acres was bought for inundation. Along with this a narrow strip of land totaling 115,000 acres was purchased for the building of special bridges, relocating of roads and the readjustments of land-owners requirements. All told, the TVA owns a land and water area of about 150,000 acres. Much of this land is covered with forest and a considerable amount of it is badly eroded. The TVA has turned administration of the area over to the Forestry Division of the TVA for administration as the Norris Lake Forest.

The objective of forest administration is to show how the proper management of forest lands can act as a source of livelihood to families who can work, possibly half time in the woods, spending the rest of their time in farming or on other jobs. With this in mind, a careful survey of the area of the Norris Lake Forest has been made and after suitable calculations the rehabilitation of twenty-two houses already standing on the property has been completed, using the forest workers for this purpose. Around each house a small area of farm land is leased, along with the buildings, to the forest workers and the houses are fitted up so as to render them reasonably comfortable on a standard of living within the reach of any energetic, resourceful and enterprising farmer in this part of Tennessee.

In addition, assistance has been given the workers in planning out their gardens, and farm operations and this, together with the working out of a program of finishing road improvement work, forest planting and similar forestry work on the TVA lands themselves, has given this experiment in forest resettlement an excellent start. The stopping of forest fires, planting of forest tree crops such as black walnuts, Asiatic chestnuts and similar valuable species, together with controlled grazing, the stocking of Norris Lake with valuable food and game fish and the general program of the Forestry Division is designed to make life taking on a new hope in this little rural experiment.

-- American Forest.

KEPHART COLLECTION DONATED TO GREAT SMOKY MOUNTAIN MUSEUM

The library, camping and fishing equipment, notes representing many years of research, maps and personal effects belonging to the collection of the late Horace Kephart, author, of Bryson City, North Carolina, have been donated to the museum to be established in the Great Smoky Mountain National Park in North Carolina and Tennessee by the Kephart family and friends.

The Kephart library contains many books, notes and manuscripts that deal with the Southern Appalachian Mountains in general and the Great Smokies in particular.

Horace Kephart was an outstanding authority on the Great Smokies, having come to that region in 1904 for his health. In the solitude of the mountains he became an expert on camping and woodcraft and on the history of the life of the mountain people.

SELF-READING HYPSONETER

In view of the labor involved in obtaining correct heights of standing trees through the common method of chain and abney, explanations and a sketch of a simple-self-calculating instrument follow. This instrument may be applied at any point on the ground chosen by the operator reasonably adjacent to the tree and eliminates necessary determination of horizontal distance. It is to be used in combination with a 16' pole. It is known that such an instrument has been used in other Regions therefore no claim is assumed for its invention. Norman R. Hawley and Harold F. Wise made the hypsoneter shown in the accompanying illustration.

CONSTRUCTION:

White pine has been found to be an ideal material. As indicated by the diagram the side aperture is cut to 12". It is important for the accuracy of the instrument that this measurement be exact. Calibrations are computed by formula; $X = \frac{16}{Y} \times 12"$

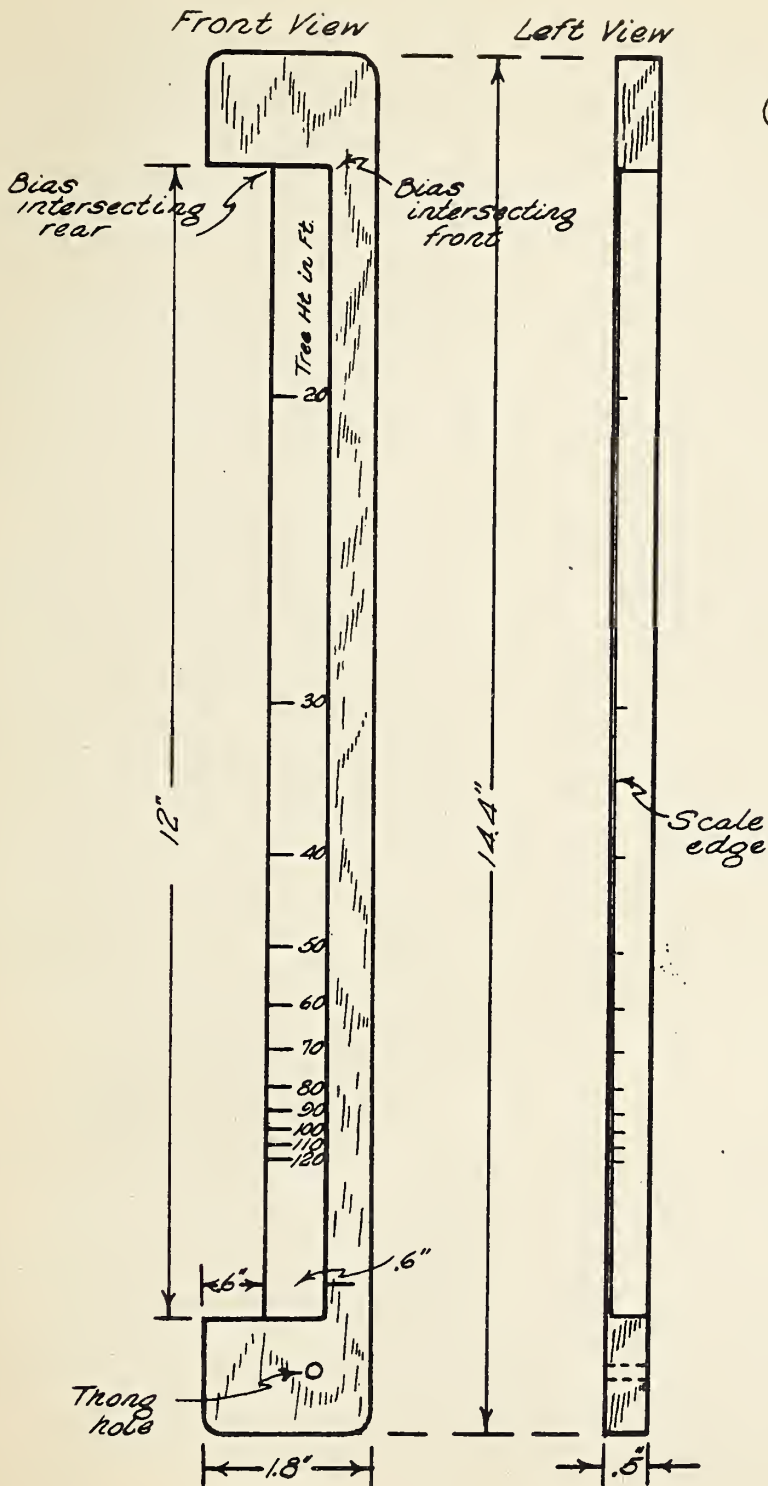
in which X equals location of desired calibration on the scale, expressed as a fraction of 12"; Y equals given height of tree in feet; 16 equals constant (height of pole). The calibrated scale was drawn on a good grade of paper with black India ink, pasted into the bias notch, and the instrument shellaced. The degree of calibration is optional with the requirements of the job.

APPLICATION:

An assistant holds the 16' pole perpendicularly alongside the tree to be measured being sure that its base is level with that of the tree. The instrument man chooses a point wherein the full length of the tree and the top of the pole can be readily seen. Holding the hypsoneter perpendicularly before him he adjusts its distance from his eye until the tree is so framed in the instrument that its base intersects the bottom and its tip the top of the aperture. He then notes the reading at which the top of the pole intersects the instrument scale. This is the height of the tree.

-- Norman R. Hawley
Ouachita National Forest.

SELF-READING HYPSONETER (To be used with 16' pole)



F O R E S T - N E W S

ALABAMA- Timber trespass has been increasingly evident on the Black Warrior. Four cases were discovered during the month all of which were classed as "first-offense" and settlement made in the customary manner. The price of timber will be going up soon, however, and a lull is expected in this activity.

The construction of a 100-foot steel tower on Horseblock Mountain has been completed. This is the second tower which has been erected on the Talladega District recently.

Fire prevention by personal contact on the Talladega is being supplemented by the distribution of a series of mimeographed letters to the residents within and adjacent to the Forest boundary. These letters point out the benefits to be expected by the establishment of the Talladega District through protection of the land from fire. The first letter quoted the laws of this State relating to forest fires. Subsequent letters were written under the following headings:

- "Sustained Yield"
- "Flood Control"
- "Wildlife"
- "Recreation"
- "Fire Damage"

The distribution of these letters has been set at two-week intervals with the final letter on "Fire Damage" scheduled to appear about October 10. To date, three letters have been sent out.

Work has been initiated on aerial surveys on each unit with a

force of eight survey crews laying the ground work for the actual photographic work. This is a new type of work on the Alabama but we feel justified in looking forward to a real map of each unit.

An administrative site has been selected and approved for purchase within the city limits of Talladega. It is planned to erect a warehouse, garage, and other administrative buildings for headquarters of the Talladega District as funds are made available.

H. B. Morse, ECW Inspector, visited the Conecuh and Black Warrior during August and gave some suggestions in regard to safety education, training and ECW Administration in general.

Overheard:

Property Clerk going over records: "Everytime I see 'Black Warrior' it makes me think of Joe Louis."

-- Frank W. Rasor,
Forest Supervisor.

SOUTH CAROLINA

Under the ECW program for the fiscal year 1936 for the protection and development of the four National Forest Units in South Carolina, the following construction work has been completed: seven steel lookout towers from 69 to 100 feet in height; 135 miles of telephone lines; over 200 miles of forest development roads and truck trails; one fire guard dwelling; two lookout houses; one office building;

three miscellaneous minor buildings. Under erosion control: ten check dams, and 208 acres of eroded land has been planted with commercial tree species. Six hundred and thirty-seven of fire breaks were constructed.

On Sunday, August 9, the married folks, and families, in the Supervisor's Office, numbering 30 people, motored to Poinsett Park, 43 miles from Columbia, to have a picnic. Each family brought a basket, and when all the food was placed on the table, it looked as though an army was to be fed. However, as the day drew to a close, practically all the food had disappeared and every one agreed that he had eaten too much. The chicken population must have been sadly depleted!

A soft ball game was played between Assistant Supervisor McKinley's Bearcats and Road Superintendent Vernon's Tigers, which ended after a hilarious two innings with the score 24-12 in favor of the Tigers. At the end of the second inning everyone was huffing and puffing, so it was decided to go swimming. It is planned to have such a get-together each month in which the entire force will participate.

A woodworking class has been organized at Camp F-6, with about fifteen enrollees taking part in it the first night. This class will meet two nights a week; one night will be given over to blackboard work and lecture at this camp, and the other night will be devoted to actual shop work in the shop at Camp F-5, Union, S. C.

The men enrolled in this class will be taught bench work,

lathe work, and a little about reading blue prints.

The Woodlawn Tower, which will serve the extreme southern end of the Long Cane, was completed during July. This is one of the most scenic spots in the Districts, and the tower and cabin, nearing completion, make an ideal combination for the lookouts. The complete display of 234 fire prevention posters has been distributed over the entire Ranger District.

Our Forests are becoming safety-minded, and all members of the personnel are pushing the safety program. It is better to prevent serious accidents than to explain them afterwards.

Since July 1, 1935, 1461 visitors' registers in the various lookout towers on the Francis Marion and Sumter National Forests. 1380 of these visitors were from the State of South Carolina, and the balance represented 14 other states.

-- H. M. SEARS,
Forest Supervisor

KISATCHIE

Planting surveys are being conducted from all camps on the Kisatchie in preparation for the fall and winter planting season. A large and very fine crop of pine trees has been grown at the nursery this year, and many thousands of acres will be planted.

Beginning in August, classes are being given one day each week in all camps on the Forest. These classes conducted by the foreman in charge, are to explain to the boys

the details and methods used in the work they are doing. For example, a survey crew receives instructions in the methods of reading instruments, plotting notes, chaining etc. This activity has met with a gratifying response from all the enrollees.

Work was started in August on an exhibit of various Forest activities to be displayed at several parish fairs within the next few months. While nothing as elaborate as the Centennial Exhibit is planned, it is hoped that the exhibit will do much to help explain our activities and bring before the public the aims of the Forest Service. Recreation Planner Jackson, Assistant Ranger Kellogg and Junior Forester Joy are preparing the exhibit.

The Big Creek Camp is practically complete, and many people have visited this area during August. Valentine Lake Area is shaping up rapidly and will receive a tremendous use when open next spring, if the interest already shown by the public can be used as a guide.

The grazing management plan was completed during August on the Kisatchie Division by Junior Ranger Lane. He has now started work on the plan for the Vernon Division.

Members of the CCC Company at Camp Kisatchie are good neighbors. Mr. and Mrs. John Gandy's home near Bellwood was destroyed by fire on July 29. This couple had resided in this community for a number of years. When members of the company heard of their misfortune, they volunteered contributions out of their

own pockets to the amount of twenty-five dollars, and a number offered their services to help rebuild a house for the couple.

-- Philip H. Bryan
Forest Supervisor.

OUACHITA

One hundred and fifty-six people braved the dust and drove out in to the forest on a SHOW-ME-TOUR August 19. The party left Plainview at 9:00 A.M. and drove over highway No. 7 to Main Mountain Truck Trail thence to Cove Mountain Tower where ice water and lemonade was served by the Jessieville CCC Camp. A new Bosworth range finder and an old dispatcher's table with map, had been set up on the ground for the occasion.

From Cove Mountain Tower the party proceeded to Allen's Peak Lookout Tower, and from there they drove to Aly Camp for dinner. This dinner cost only 25¢ per plate but judging from the loads of fried chicken, water melon and other things carried out, the meal was very much enjoyed and probably made some inroads on the camp mess fund savings.

Speeches were made by several men, including Supervisor Nelson and Congressman Terry.

After luncheon the party proceeded over the Chula-Aly road to Bluffton and then over Highway No. 28 to Plainview.

In line with the nationwide publicity afforded the drought

situation the Womble District offers comments relative to its effect on an even dozen reportable fires, with some added notes of effects on certain of the personnel:

With no rain worthy of mention since July 3, the District met hot August winds with fruitless scanning of cloudless skies. On the 6th a few thunderheads appeared, sparsely shelled the countryside, and moved on. Result: One reportable fire.

On the afternoon of the 7th two distinct thunderstorms passed over the District. Clouds bordering on nimbus character scudded past lookouts, bringing light mists and lowering visibility. Judging from cloud formations rain should have fallen when it did not and, inversely, lightning should have been lacking when it indiscriminately cracked hill and valley with a cannonading.

One fire developed on the 7th, one on the 8th, four on the 9th (Sunday), and two on the 12th. All were directly attributable to the dual storm of the 7th, and all originated in lightning shattered trees where, as the late date of flare-ups indicate, fire smoldered as long as five days before breaking to the ground.

Corralled, the fires refused a clean mop-up in acceptable time. "Fire out (all men released)" on 929 B-C's leaped from hours to days. All-night guards patrolling fires apparently cold at dusk discovered wisps of smoke issuing from stump holes at dawn. An actual test disclosed one root to have burned to a depth of sixteen feet.

During the period of highest tension it is believed Ranger Bigley slept in his clothes. It is known that on one occasion he grabbed the receiver in answer to a telephone call and wailed into the transmitter, "Where is it this time?"

It is told that Junior Foreman Graham F-5 raised fevered eyes from the third fire he had battled in five days to discover flames playing tag with a tree top a half-mile away. Over the grapevine we hear Mr. Graham marshalled his forces with an incoherent bleat anent "the world's on fire" and sprinted to the new danger, passing the telephoned report enroute.

On the memorable Sunday one red-necked enrollee, after playing nurse-maid to a council tool some two hours, shook a sweat-streamed head and dolefully remarked he "felt a bit light between the ears." Later investigation disclosed that at the particular time a nearby Weather Bureau thermometer was lapping 110°.

With breath returning to the personnel, an unwitting resident dropped a butt. A fire crew now 100 percent veteran to the last week old rookie, nailed it on the first acre. Ranger Bigley, perhaps stung by having his mind temporarily removed from lightning flashes, swooped upon the culprit with such decision as to crack that individual's carefully prepared alibi amidships. Convictions for August thus rest to-date at 100 percent.

Supervisor Nelson, Acquisition Assistant Ricker, Junior Forester Palmer, LEM Charles McClennand from Camp Aly, and Ranger Griswold attended the Summer Meeting of the Ozark

Section, Society of American Foresters, held August 7 to 9 on the Gardner and Clark National Forests in Southern Missouri.

Of most interest was the Ranger Station development. Only one of five examined was in town. The other four ranged from the outskirts to two miles out.

The Licking Nursery, a 12-million seedling nursery with a 15-million seedling capacity was visited. An overhead sprinkler system is used, covering 40 acres. The entire area is watered when necessary once every ten days, five acres being watered at one time. Water is taken from a 1657-foot well.

At the business meeting the following officers were elected to serve the remainder of this year. Chairman, Assistant Supervisor Averell of the Ozark; Vice Chairman, Supervisor Nelson; Secretary, Acquisition Assistant Lee of the Gardner. The Clark turned out full force for the meeting, a delegation from the Shawnee in Illinois came as visitors.

Two timber sales on the Cold Springs District were made in August to the Caddo River Lumber Company, one of four million and thirty-five thousand board feet in West Gafford Creek Compartment at a price of \$ 7.50 per M. Operations on the Fiddlers Creek sale of six and one half million board feet at \$ 7.00 per M has not been started due to the fact that Caddo River Company's Mill at Glenwood was burned. Operations will start on both of these sales in September.

Timber sales activity on the Oden District dropped off as soon

as we trimmed the Ozark for total receipts for the fiscal year 1936. The monthly cut is now a mere 800 MBM of shortleaf pine.

Recent attempts to secure publicity for the Forest Service in the local papers has resulted in a full page spread of pictures in the Sunday edition of the Daily Oklahoma. A weekly Ranger's column is the feature of the Heavener Ledger and the Talihina American. This column stresses fire prevention.

Three convictions were obtained in two days in Justice A.C. Titsworth's court on the Mena District for violations of the Arkansas Forest Fire Law.

One was obtained under paragraph 7 of Section 1 of the fire law which makes it a misdemeanor for burning brush adjacent to forest lands without first notifying the Forest Service. He was fined \$10.00 and costs.

Another was a smoker fire which started on Government land. This man was fined \$10.00 and costs in lieu of the payment of which he was remanded to jail.

The third conviction was against two transients who had abandoned a campfire without first extinguishing it. A warrant was sworn out for their arrest and they were taken into custody by the sheriff. They were fined \$10.00 and costs each. As the men were without funds they were remanded to the County bastille.

The Mena Weekly Star issued a special centennial edition, on August 27, 1936, commemorating the

100th anniversary of the State and the 40th anniversary of the Mena Star. In this special issue one entire page was devoted to a history and development of the Mena District of the Ouachita National Forest and the Shady Recreational area. Six large pictures gave scenes of the various camp grounds and a map of this area shows the roads, lookouts, and location of the camp grounds.

Excerpts from an old issue of the Star under date of June 12, 1907, states that :

" This date marks an event of great moment in the history of Mena. It helped to assure two permanent money crops, timber and tourists. The Arkansas National Forest was created by the Government."

On the three camp grounds in the Shady Recreational area of the Mena District, visitors registered in 1935 from 34 states and 6 foreign countries and in 1936 to date, there are 27 states and 3 foreign countries represented.

-- A. L. Nelson
Forest Supervisor.

PISGAH

The recreational areas on the Pisgah have had an overflow of visitors this season. Bent Creek still leads the other areas with nearly 5,000 visitors for the month of August. Frying Pan Gap Camp Ground is proving more popular each month having 4,135 visitors during the month of August. Carolina Hemlock Camp Ground, despite the fact that construction work is still

under way, received the second heaviest use with 4,650 visitors during July. The new water system is nearly complete and the five fountains with automatic shut-offs are a great improvement over the old hand pump. The recently constructed council ring proved to be a delightful gathering place for evening meetings of local civic organizations. Work is also progressing on the incinerator, attendant's cabin, table and fire places. Many favorable comments have been made by the public to the Forest personnel working on the area.

Chestnut is at a premium amongst the timber operators at the present time. Only two accessible boundaries of more than 1000 feet remain to be sold on the Mt. Mitchell District. Two operators completed cutting on their units during July, the total cut of salvage material amounted to 333,020 board feet. This timber has been cut since May and has been the sole means of cash income for about sixty local people.

Fire towers on the Uharie Districts have been completed, except for telephone lines and it is hoped they will be completed before the fire season begins in October. All Districts are busy collecting and assembling fire tools for repairs, sharpening and repainting. Different camps are having regular meetings to discuss safety, cooperation and fire preparedness. Fire prevention signs have also been replaced throughout the Districts.

The personnel of the Supervisors Headquarters enjoyed a holiday of an hour and a half, September 10, from 10:30 A.M. until noon. We were 100 percent at McCormick Field where 20,000 Ashevilleans and

citizens of the nearby vicinities gathered to hear our President make a short address. In his few brief words he glorified the wonderful tree growth in this part of the country and it made us feel mighty proud that we are a part in the protection and continuation of these much loved trees.

-- H. E. OCHSNER
Forest Supervisor.

FLORIDA

Options have been secured from the Port Richey Company on 20,291 acres of land which now brings the Ocala boundary on the west side to the banks of the Ocklawaha River. This was the key tract to the extension of the west boundary and we feel very elated in successfully concluding our endeavors to option this land.

At Juniper Springs crews of ERA men have been at work setting out grass, working on the nature trails, cutting shingles and doing general cleanup work. The bath house is almost completed and its rustic appearance has been highly complimented. The mill house and game laboratory should be finished by the day of dedication which is set for September 14. The public is already taking advantage of the facilities offered at Juniper Springs for recreation and relaxation, and large groups are there every day swimming and picnicking.

On July 31, the Choctawhatchee was the scene of a tropical disturbance of more than moderate intensity. The wind reached a velocity of from sixty to eighty miles per hour, with gusts of one

hundred and twenty-five miles per hour reported by the United States Weather Bureau.

CCC F-3 was de-roofed but the buildings were uninjured. An example of the perversity of hurricanes is the fact that the school house at Niceville, Florida, to which the CCC boys had been moved for greater safety, was demolished and the camp buildings left intact. Lieutenant C. B. Drennon, Jr., Company Commander, CCC-F-3, praised the boys for their orderliness during the storm. One CCC lad put his faith in a twenty-four inch Forest Service culvert when the school house collapsed. He saw no other available haven, so he crawled into the culvert and awaited developments. After several hours in his cramped storm refuge, the high water floated him out. He does not advocate culverts as a substitute for storm cellars in this region.

Timber sales showed a decided increase, with the demand for storm-thrown timber exceeding the supply. Sales have been made to twenty operators who are taking the material out as fast as possible. The removal of this storm timber is giving employment to the heads of eighty-five families at present, and it is estimated that it will continue for at least three months at its present rate.

The Apalachicola unit has undertaken to furnish six hundred bales of Sphagnum moss for packing nursery seedlings. Plans for getting this moss out of the swamps, dried, baled and stored on an extensive scale were worked out during the month of August, using a small crew to try out various methods.

-- Frank A. Albert
Forest Supervisor.

THE LOOKOUT

Regional Forester Kircher accompanied by Regional Engineer Pidgeon attended a conference with District Engineer Snead of the Bureau of Public Roads at Montgomery, Alabama on September 8.

Associate Regional Forester Stabler has returned from a vacation in Maryland.

Mr. Kircher left on September 12 for Ocala, Florida to attend the dedication of the Juniper Springs recreational area on the 14th. Mr. Kircher and ECW Assistant Director Charles H. Taylor will appear on the program. Major Sandlin, CCC Officer, will represent the Commanding General, Fourth Corps Area.

State Forester Sonderegger of Louisiana was a visitor in the Regional Office September 3 and 4.

C. Stowell Smith, Division of State and Private Forestry, Washington Office has completed the field work in Region 8 on which he has been engaged for the past month and has returned to Washington.

R. J. Riebold addressed a meeting of the James Edward Oglethorpe Chapter of the Daughters of the American Colonists at the D.A.R. Chapter House in Atlanta on the afternoon of September 1. The meeting was held to discuss plans of this organization for tree planting in commemoration of the one hundred and fiftieth anniversary of the formation of the Constitution of the United States.

Assistant Regional Forester Shaw spent the last ten days of August on a field trip which included the Chattahoochee, Nantahala, Cherokee and Pisgah Forests.

Assistant Regional Forester Pidgeon, Assistant Regional Forester Kramer and W. W. Bowers left on September 12 for Arkansas to attend the Recreational Planners Conference to be held at Hot Springs September 15-19. Mr. Howard Jones of the Washington Office will join Mr. Pidgeon there for a two weeks inspection of the engineering work on the Ouachita and Ozark National Forests in northern Mississippi, on the Alabama National Forest and parts of the Appalachian group.

P. J. Paxton, Division of Recreation and Lands, accompanied Messrs. Julian E. Rothery and K. D. Henze of the Chief's Office on an inspection trip through the Chattahoochee National Forest during the week of September 13.

Mr. W. I. Stevens has been detailed to Jackson, Mississippi, for work in connection with floodway appraisals on which the Forest Service is cooperating with the War Department.

W. N. Sloan, Division of Engineering, attended the meeting of the Society of Photogrammetry held in Chattanooga, Tennessee, on September 3, 4 and 5. The meeting was largely devoted to a complete description of the methods employed in mapping the Tennessee Valley by aerial photography.

Mr. Howard B. Waha, Division of Engineering, has just returned from an inspection trip in Mississippi. Mr. H. W. Rainey Accompanied Mr. Waha through Mississippi and is now making an extended enspection of the Louisiana and Texas Units.

1st Lieutenant William D. Patterson, spending two weeks at Fort McPherson C.M.T.C., was overtaken by an operation. The Division of Engineering is happy to welcome Pat back again.

Miss Sarah Reynolds of the Division of Engineering has just returned from a months detail in Savannah, Georgia, with the Naval Stores Control Program.

Charles; A. James, Division of Drafting was married on August 29 to Miss Margaret C. Gaskins of Washington, D. C.

H. N. Wheeler, chief lecturer for the Forest Service, has returned to Washington after making illustrated talks at each of thirteen forestry festivals recently held in Arkansas under the auspices of State Forester Charles A. Gillett. Mrs. Elizabeth S. Pitt, Regional Office, who was in Little Rock on September 2 to make a talk at the Annual Home Demonstration Rest Camp, attended a number of the festivals. According to Mr. Gillett's records, the series attracted nearly 28,000 people.

W. R. Barbour of the Division of Lands has returned from a trip to the South Carolina Forests where he was assisting with plans for the development of recreational areas on the various units.

W. R. Hine, Division of State and Private Forestry, spent the first week in September on the Florida Forests.

J. H. Stone, Associate Engineer, is making an inspection of

the central repair shop in Tennessee. He will also make an inspection of all the State and Private Camps in Tennessee.

Clinton G. Smith, Division of State and Private Forestry, in company with Jay Ward of the Washington Office, spent sometime the latter part of August in Savannah and Jacksonville in connection with the Naval Stores program.

The friends of Regional ECW Inspector H. B. Morse sympathize with him in the death of his mother which occurred on August 22 at West Roxbury, Massachusetts.

E. J. Schlatter and Carl W. Strauss of the Division of State and Private Forestry, left September 10 for a trip to Albany, Georgia, and Tallahassee, Florida.

B. M. Lufburrow, Division of State and Private Forestry, has returned from an inspection trip to the Jacksonville Naval Stores District.

H. B. Herms, Assistant Regional Fiscal Agent made a trip to South Carolina last week.

J. B. F. Rylant, Truck Trail Foreman at Camp Alabama F-5 was transferred on August 10 to Camp F-3 as Acting Project Superintendent, replacing James F. Martin who was assigned on detail to the Caribbean National Forest, Puerto Rico.

M. T. Maxwell, Jr., Division of ECW, has recovered from a recent operation and is back at the office.

Mrs. Malvina Taylor of the Division of Operations will be transferred to headquarters office of Region 7, Washington, D. C., effective October 1.

New Orleans, Louisiana
September 8, 1936

Mr. Joseph C. Kircher,
Regional Forester,
U.S. Forest Service,
Atlanta, Georgia.

Dear Mr. Kircher:

I have just read the DIXIE RANGER for August and I am particularly interested in your article "TIMBER SALES OR TRACTORS" in which I heartily agree with you. Frequently I have wondered whether or not the physical improvement of forests is not dominating the administrative force of the Forest Service, although I have realized that it is a tremendous job to install roads, trails, telephones, ranger stations, towers, etc., that are essential to good forest management.

Your emphasis on the business aspects of forestry is also very timely, especially your statement that forest officers should sell what they grow and promote the wide utilization of all forest products grown on national forests.

Of course the development of sound management plans for the southern forests will be a tremendous job but it will be a most interesting one, especially since our Southern Pine forests are so plastic and can be molded to meet our requirements in a comparatively short time.

Best wishes for the success of your program.

Yours very truly,

SOUTHERN PINE ASSOCIATION

By A. E. Wackerman, Forester,
Department of Conservation.

